## REMARKS

Favorable reconsideration of the present patent application is respectfully requested in view of the foregoing amendments and the following remarks. The applicant appreciates the courtesies extended to applicant's undersigned representative during the telephone interview of August 12, 2008. During the telephone interview applicant's representative inquired whether this Amendment would be entered in the application as an After-Final Amendment, and discussed some of the distinguishing features of the claims.

In this Amendment claim 1, 21, 39, 48, 57 and 64 are amended, claim 5, 25, 43 and 52 are canceled, and no claims are added. As a result, claims 1-4, 6-24, 26-42, 44-51 and 53-70 are now pending in the application. Support for the claim amendments can be found throughout the disclosure, for example, pages 19 and 24-25 of the specification.

In the final Office Action of April 17, 2008 claims 1-5, 7-8, 10-15, 17-18, 20-25, 27-28, 30-34, 36-37, 39-43, 45-46, 48-52, 54-55, 57-62 and 64-69 are rejected under 35 U.S.C. §102(e) in view of U.S. Patent 7,051,189 (Warnes). Claims 6, 9, 16, 26, 29, 35, 38, 44, 47, 53, 56, 63 and 70 are rejected under 35 U.S.C. §103(a) in view Warnes. It is noted with appreciation that the previously pending rejection under 35 U.S.C. §101 and the rejection under 35 U.S.C. §112, second paragraph have now been withdrawn.

*Static Instruction Count vs. Dynamic Instruction Count*

The Remarks of the previous Amendment pointed out that the Warnes system uses a static instruction count rather than a dynamic instruction count. The Remarks went on to imply that "frequency of operations performed," as recited in the claims of the present application, is

the same as dynamic instruction count but does not encompass static instruction count. This argument was erroneous and is hereby withdrawn. The present specification discloses use of both static instruction count and dynamic instruction count for tuning an instruction set. For example, paragraphs [0041] through [0043] disclose scanning the code to determine a histogram of operations (static information), while paragraphs [0051] and [0059] disclose use of the executed frequency of operations (dynamic information) by further performing loop analysis to modify the static information to account for loops that may get executed multiple times. The claim term "frequency of operations performed" is broad enough to cover both static and dynamic instruction count. For example, Claim 1 is amended by this paper to recite "scanning the code sequence to determine a static frequency of operations in the code sequence [and] performing a loop analysis to determine an executed frequency of operations for the code sequence"—language intended to more clearly define the metes and bounds of the claimed invention.

### 35 U.S.C. §102 & §103 Rejections

The §102 and §103 rejections of claims 1-70 are respectfully traversed for at least the following reasons.

Claims 1, 21, 39, 48, 57 and 64: The present Gateway invention involves methods and systems for optimizing the representation of a code sequence. In various embodiments the tuning is done "based on the static frequency of operations and the executed frequency of operations," as recited in each of claims 1, 21, 39, 48, 57 and 64. The system discussed in Warnes uses only the frequency of occurrence (static instruction count), and does not use the executed frequency of

operations (dynamic instruction count).[1] Therefore, <u>Warnes</u> does not teach or suggest "wherein the tuning of the instruction set is based on the static frequency of operations and the executed frequency of operations," as recited in claims 1, 39, 48 and 64, or "wherein the tuning of the instruction set is based on the static frequency of operations and the executed frequency of operations for said register," as recited in claim 21, or "providing a representation based on the static frequency of operations and the executed frequency of operations," as recited in claim 57.

<u>Loop Analysis</u>: Independent claims 1, 21, 39 and 48 are amended to recite loop analysis from various respective dependent claims. For example, claim 1 now recites "performing a loop analysis to determine an executed frequency of operations." Originally filed dependent claims 15, and 34, also recite loop analysis. The <u>Warnes</u> patent contains no suggestion of "wherein the step of determining operation frequency may further include loop analysis." The <u>Warnes</u> document merely explains the difference between static frequency and dynamic frequency, and states that they may be accomplished in any number of different ways.

<u>Claim 11</u>: The Office Action does not address claim 11, instead merely stating that the limitations of claim 11 correspond to those of claim 1. This is not correct. Claim 11 recites features not found in claim 1, and not taught or suggested by <u>Warnes</u>. For example, <u>Warnes</u> does not teach or suggest "providing a plurality of pre-determined instruction sets [and] selecting one of the plurality of predetermined instruction sets based on the determined frequency of operations performed," as recited in claim 11.

<u>Claim 30</u>: The Office Action does not address claim 30, instead merely stating that the limitations of claim 30 correspond to those of claim 21. This is not correct. Claim 30 recites

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[1] <u>Warnes</u>, col. 9, lines 3-21.

features not found in claim 21, and not taught or suggested by <u>Warnes</u>. For example, <u>Warnes</u>

does not teach or suggest "limiting the use of one or more of the plurality of registers based on

the frequency of use of one or more of the plurality of registers," as recited in claim 30.

Accordingly, it is respectfully submitted that the <u>Warnes</u> document does not disclose or

suggest the features of the claimed invention. Therefore, withdrawal of the rejections is earnestly

requested.

*Deposit Account Authorization / Provisional Time Extension Petition*

It is believed that the accompanying Fee Transmittal and Petition for One-Month Extension of Time is sufficient for this filing. However, to the extent necessary, a provisional petition for an additional extension of time under 37 C.F.R. §1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 50-0439 and please credit any excess fees to such deposit account.

## CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. However, in the event there are any unresolved issues, the Examiner is kindly invited to contact applicant's representative, Scott Richardson, by telephone at (571)970-6835 so that such issues may be resolved as expeditiously as possible.

Respectfully submitted,

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**Date: August 18, 2008**